Steffen Wirth

List of Publications by Year
in descending order

88 papers	4,038 citations	159585 30 h-index	114465 63 g-index
89 all docs	89 docs citations	89 times ranked	4562 citing authors

#	Article	IF	Citations
1	Giant anomalous Hall effect in a ferromagnetic kagome-lattice semimetal. Nature Physics, 2018, 14, 1125-1131.	16.7	876
2	Hall-effect evolution across a heavy-fermion quantum critical point. Nature, 2004, 432, 881-885.	27.8	431
3	Evidence for two-band magnetotransport in half-metallic chromium dioxide. Physical Review B, 2000, 61, 9621-9628.	3.2	212
4	Direct observation of electron doping inLa0.7Ce0.3MnO3using x-ray absorption spectroscopy. Physical Review B, 2003, 67, .	3.2	186
5	Detaching the antiferromagnetic quantum critical point from the Fermi-surface reconstruction inÂYbRh2Si2. Nature Physics, 2009, 5, 465-469.	16.7	180
6	Emerging local Kondo screening and spatial coherence in the heavy-fermion metal YbRh2Si2. Nature, 2011, 474, 362-366.	27.8	143
7	Fermi-surface collapse and dynamical scaling near a quantum-critical point. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14547-14551.	7.1	133
8	Surface states in bulk single crystal of topological semimetal Co ₃ Sn ₂ S ₂ toward water oxidation. Science Advances, 2019, 5, eaaw9867.	10.3	118
9	Hybridization gap and Fano resonance in SmB ₆. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 4798-4802.	7.1	111
10	Thermal and electrical transport across a magnetic quantum critical point. Nature, 2012, 484, 493-497.	27.8	78
11	Exploring heavy fermions from macroscopic to microscopic length scales. Nature Reviews Materials, 2016, 1, .	48.7	77
12	Foundations of heavy-fermion superconductivity: lattice Kondo effect and Mott physics. Reports on Progress in Physics, 2016, 79, 084502.	20.1	73
13	Colloquium : Heavy-electron quantum criticality and single-particle spectroscopy. Reviews of Modern Physics, 2020, 92, .	45.6	70
14	Correlation between ground state and orbital anisotropy in heavy fermion materials. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2384-2388.	7.1	65
15	Low-temperature phase diagram of Fe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1</mml:mn><mml:mo>+</mml:mo><mml:mi>y</mml:mi></mml:mrow></mml:msub></mml:math>Te studied using x-ray diffraction. Physical Review B, 2013, 88, .	3.2	61
16	Dirac Nodal Arc Semimetal PtSn₄: An Ideal Platform for Understanding Surface Properties and Catalysis for Hydrogen Evolution. Angewandte Chemie - International Edition, 2019, 58, 13107-13112.	13.8	59
17	Phase diagram and Hall effect of the electron doped manganite La1â^'xCexMnO3. Journal of Applied Physics, 2003, 93, 8328-8330.	2.5	55
18	Interplay between Kondo Suppression and Lifshitz Transitions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>YbRh</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Si</mml:mi><mml:m High Magnetic Fields. Physical Review Letters, 2013, 110, 256403.	7.8	55

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19	First-order structural transition in the magnetically ordered phase of Fe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1.13</mml:mn></mml:mrow></mml:msub></mml:math>Te. Physical Review B, 2011, 84, .	3.2	53
20	Probing the Quantum Critical Behavior ofCeCoIn5via Hall Effect Measurements. Physical Review Letters, 2007, 98, 057001.	7.8	52
21	Additional energy scale in SmB6 at low-temperature. Nature Communications, 2016, 7, 13762.	12.8	50
22	Superconducting gap structure of FeSe. Scientific Reports, 2017, 7, 44024.	3.3	44
23	Ferromagnetic transition and specific heat of Pr<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>0.6</mml:mn></mml:mrow></mml:msub></mml:math>Sr<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>0.4</mml:mn></mml:mrow></mml:msub></mml:math>MnO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow />	3.2	43
24	Photoemission and x-ray absorption spectroscopy study of electron-doped colossal magnetoresistive manganiteLa0.7Ce0.3MnO3films. Physical Review B, 2004, 69, .	3.2	39
25	Hall effect measurements and electronic structure calculations on<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>YbRh</mml:mtext></mml:mrow><mml:mn>2</mml:mn></ its reference compounds<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>LuRh</mml:mtext></mml:mrow>.	3.2	39
26	Signatures for half-metallicity and nontrivial surface states in the kagome lattice Weyl semimetal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Co</mml:mi><mml:mn>3</mml:mn><mml:mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2019, 99, .	3.2	38
27	Evidence for Ferromagnetic Clusters in the Colossal-Magnetoresistance Material <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>EuB</mml:mi></mml:mrow><mml:mrow><mml:mn>6</mml:mn></ Physical Review Letters, 2018, 120, 257201.	7.8	33
28	Magnetism and superconductivity driven by identical 4 f states in a heavy-fermion metal. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9537-9540.	7.1	32
29	Evolution of the Kondo lattice and non-Fermi liquid excitations in a heavy-fermion metal. Nature Communications, 2018, 9, 3324.	12.8	32
30	Disorder-driven electronic localization and phase separation in superconducting<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Fe</mml:mtext></mml:mrow><mml:mrow><mml:mn>1</mml:mn></ Physical Review B, 2010, 82, .	3.2	30
31	Magnetic and defect probes of the SmB ₆ surface state. Science Advances, 2018, 4, eaau4886.	10.3	29
32	Hall effect in heavy fermion metals. Advances in Physics, 2012, 61, 583-664.	14.4	28
33	Dirac Nodal Arc Semimetal PtSn₄: An Ideal Platform for Understanding Surface Properties and Catalysis for Hydrogen Evolution. Angewandte Chemie, 2019, 131, 13241-13246.	2.0	28
34	Emergence of an incipient ordering mode in FeSe. Physical Review B, 2015, 92, .	3.2	25
35	Bulk and surface electronic properties of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mtext>SmB</mml:mtext></ A hard x-ray photoelectron spectroscopy study. Physical Review B, 2017, 96, .	3.2	23
36	Tip preparation for usage in an ultra-low temperature UHV scanning tunneling microscope. Science and Technology of Advanced Materials, 2007, 8, 347-351.	6.1	22

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37	Evidence of a Kondo Destroying Quantum Critical Point in YbRh₂Si₂. Journal of the Physical Society of Japan, 2014, 83, 061001.	1.6	22
38	Precursor State to Unconventional Superconductivity in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>CeIrIn</mml:mi><mml:mn>5</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2008, 100, 137003.	7.8	21
39	Pressure-induced successive structural transitions and high-pressure tetragonal phase of Fe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1.08</mml:mn></mml:mrow></mml:msub></mml:math>Te. Physical Review B, 2013, 86, .	3.2	21
40	Surface and electronic structure of SmB through scanning tunneling microscopy. Philosophical Magazine, 2016, 96, 3262-3273.	1.6	20
41	High spin polarization in the ferromagnetic filled skutteruditesKFe4Sb12andNaFe4Sb12. Physical Review B, 2005, 72, .	3.2	18
42	Kondo destruction in heavy fermion quantum criticality and the photoemission spectrum of YbRh2Si2. Journal of Magnetism and Magnetic Materials, 2016, 400, 17-22.	2.3	17
43	Impurity-induced bound states inside the superconducting gap of FeSe. Physical Review B, 2017, 96, .	3.2	16
44	Evolution of ground-state wave function in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="bold">CeCoIn</mml:mi><mml:mn>5</mml:mn></mml:msub></mml:math> upon Cd or Sn doping. Physical Review B, 2018, 97, .	3.2	16
45	Interplay between unconventional superconductivity and heavy-fermion quantum criticality: CeCu₂Si₂versus YbRh₂Si₂. Philosophical Magazine, 2018, 98, 2930-2963.	1.6	16
46	Magnetization dynamics of a CrO2 grain studied by micro-Hall magnetometry. Applied Physics Letters, 2010, 97, 042507.	3.3	15
47	Scanning tunneling microscopy studies on CeCoIn₅ and CeIrIn₅. Physica Status Solidi (B): Basic Research, 2010, 247, 624-627.	1.5	14
48	Solitonic Spin-Liquid State Due to the Violation of the Lifshitz Condition in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Fe</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>+</mml:mo><mml:mi>y</mml:mi></mml:mrow></mml:msub></mml:math>Te. Physical Review Letters, 2015, 115, 177203.	7.8	14
49	Influence of disorder on the signature of the pseudogap and multigap superconducting behavior in FeSe. Physical Review B, 2018, 97, .	3.2	13
50	Synthesis, phase stability, structural, and physical properties of 11â€type iron chalcogenides. Physica Status Solidi (B): Basic Research, 2017, 254, 1600149.	1.5	12
51	Structural investigations on YbRh₂Si₂: from the atomic to the macroscopic length scale. Journal of Physics Condensed Matter, 2012, 24, 294203.	1.8	11
52	Anomalous Hall effect in. Physica B: Condensed Matter, 2005, 359-361, 44-46.	2.7	10
53	Phase Transition and Anomalous Low Temperature Ferromagnetic Phase in Pr0.6Sr0.4MnO3 Single Crystals. Journal of Superconductivity and Novel Magnetism, 2009, 22, 205-208.	1.8	10
54	Atomically resolved scanning tunneling microscopy on perovskite manganite single crystals. Applied Physics Letters, 2010, 96, 202512.	3.3	10

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55	Two types of magnetic shape-memory effects from twinned microstructure and magneto-structural coupling in Fe _{1+ y} Te. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16697-16702.	7.1	10
56	Challenges of Topological Insulator Research: Bi₂Te₃ Thin Films and Magnetic Heterostructures. Physica Status Solidi (B): Basic Research, 2021, 258, 2000346.	1.5	10
57	Structural and thermodynamic properties of Fe1.12Te with multiple phase transitions. Journal of Applied Physics, 2014, 115, .	2.5	9
58	Magnetic and Electronic Quantum Criticality inÂYbRh2Si2. Journal of Low Temperature Physics, 2010, 161, 67-82.	1.4	8
59	Break Up of Heavy Fermions at an Antiferromagnetic Instability. Journal of the Physical Society of Japan, 2011, 80, SA002.	1.6	8
60	Precursor state to superconductivity in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>CeIrIn</mml:mtext></mml:mrow><mml:mn>5</mml:mn></mml:m Unusual scaling of magnetotransport. Physical Review B, 2009, 79, .	3.2	7
61	Pressure-Induced Ferromagnetism due to an Anisotropic Electronic Topological Transition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Fe</mml:mi></mml:mrow><mml:mrow><mml:mn>1.08</mml:mn> Physical Review Letters, 2017, 119, 227003.	7.8	7
62	Quantum and transport lifetimes in optically induced GaN/AlGaN 2DEGs grown on bulk GaN. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	1.2	7
63	Discontinuous Hall coefficient at the quantum critical point in YbRh2Si2. Journal of Physics Condensed Matter, 2011, 23, 094216.	1.8	6
64	Homogeneity Range of Ternary 11-Type Chalcogenides Fe1 + y Te1â^'x Se x. Journal of Superconductivity and Novel Magnetism, 2017, 30, 2001-2006.	1.8	5
65	Strong modification of thin film properties due to screening across the interface. Physical Review B, 2018, 97, .	3.2	5
66	Visualization of localized perturbations on a (001) surface of the ferromagnetic semimetal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>EuB</mml:mi><mml:mn>6</mml:mn></mml:msub></mm Physical Review B, 2020, 101, .	3.2	5
67	Comparative Scanning Tunneling Microscopy Study on Hexaborides. Physica Status Solidi (B): Basic Research, 2021, 258, 2000022.	1.5	5
68	The crossedâ€field and singleâ€field Hall effect in LuRh₂Si₂. Physica Status Solidi (B): Basic Research, 2010, 247, 723-726.	1.5	4
69	Effect of Co and Ni substitution on the two magnetostructural phase transitions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Fe</mml:mi><mml:mrow><mml:mn>1.12 Physical Review B, 2016, 93, .	3.2	4
70	Observation of Landau quantization and standing waves in HfSiS. Physical Review B, 2018, 97, .	3.2	4
71	Systematic manipulation of the surface conductivity of SmB6. Physical Review Research, 2021, 3, .	3.6	4
72	Large magnetoresistance effects in Fe3O4. Journal of Physics Condensed Matter, 2019, 31, 225803.	1.8	3

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73	Surface excitations relaxation in the Kondo insulator <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Sm</mml:mi><mml:mrow><mml:mn>1</mml:mn></mml:mrow></mml:msub><mml:msub><mml:mi mathvariant="normal">B</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review Research, 2021, 3, .	3.6	3
74	Nematic state of the FeSe superconductor. Physical Review B, 2022, 105, .	3.2	3
75	Nuclear-Order-Induced Quantum Criticality and Heavy-Fermion Superconductivity at Ultra-low Temperatures in YbRh2Si2. Frontiers in Electronic Materials, 2022, 2, .	3.1	3
76	Scanning Tunneling Spectroscopy on Pr$_{0.68}$Pb$_{0.32}$MnO$_{3}$ Single Crystals. IEEE Transactions on Magnetics, 2007, 43, 3064-3066.	2.1	2
77	Magnetotransport in the CeIrIn5 System: The Influence ofÂAntiferromagnetic Fluctuations. Journal of Superconductivity and Novel Magnetism, 2009, 22, 201-204.	1.8	2
78	Analysis of the Normal-State Magnetotransport in CeIrIn5. Journal of Superconductivity and Novel Magnetism, 2009, 22, 195-199.	1.8	2
79	Hall effect and magnetoresistance in the heavy fermion superconductor CeCo(In1â€“xCdx)5. Journal of Physics: Conference Series, 2009, 150, 042133.	0.4	2
80	Phase stability in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SmB</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:math> Physical Review Materials, 2021, 5, .	2.4	2
81	An STM Perspective on Hexaborides: Surface States of the Kondo Insulator SmB₆. Advanced Quantum Technologies, 2021, 4, 2100102.	3.9	2
82	Surface and electronic structure at atomic length scales of the nonsymmorphic antiferromagnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Eu</mml:mi><mml:mn>5</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">In</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">Sb</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:math>. Physical Review B, 2022, 106, .	3.2	2
83	Hall effect measurements in the heavy-fermion system. Physica B: Condensed Matter, 2006, 378-380, 821-822.	2.7	1
84	Room temperature magnetoresistance switching of Permalloy thin films induced by iron nanoparticles. Applied Physics Letters, 2008, 92, 093121.	3.3	1
85	Revisiting the Possible 4f7 5d1 Ground State of Gd Impurities in SmB6 by Electron Spin Resonance. , 2020, , .		1
86	Systematic suppression of parasitic conductivity highlights undistorted quantum transport in GaN/AlGaN 2DEGs. Journal of Crystal Growth, 2022, 589, 126673.	1.5	1
87	Crossover from Landau Fermi liquid to non-Fermi liquid behavior: Indications from Hall measurements on CeCoIn5. Physica C: Superconductivity and Its Applications, 2007, 460-462, 678-679.	1.2	0
88	Influence of Ir and La substitution on the thermal transport properties of YbRh₂Si₂. Physica Status Solidi (B): Basic Research, 2013, 250, 491-494.	1.5	0